



SURVEY OF HANDICAPPED PERSONS, AUSTRALIA FEBRUARY-MAY 1981 (PRELIMINARY)

NEW ISSUE

PHONE INQUIRIES *for more information about these statistics*—contact Mr Peter Gardner on Canberra (062) 52 6526 or any of our State offices.
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MAIN FEATURES

13.2 per cent of Australians are disabled and, of those, about two-thirds are handicapped. See paragraphs 10 and 12 for definitions of disabled and handicapped.

Of the 1,264,600 handicapped persons, 295,800 were mildly handicapped, 253,700 were moderately handicapped and 513,900 were severely handicapped. (Severity of handicap was not determined for 201,200 persons with only a schooling or employment limitation, or aged less than 5 years).

Of those who are handicapped, 111,000 are residents of health establishments and 1,153,600 are resident in households (see paragraphs 17 and 18).

The handicaps of persons in health establishments tended to be more severe than those of persons in households. For example, over 90 per cent of handicapped persons in health establishments were severely handicapped compared with 36 per cent of handicapped persons in households.

As age increases the likelihood of being handicapped also generally increases. For example, in the age range 15 to 24 years, there were 66,200 handicapped persons, whilst in the age range 65 to 74 years there were over 220,000.

EXPLANATORY NOTES

Introduction

During February to May 1981 a survey was conducted throughout Australia to obtain information about the nature and extent of various disabilities and handicaps in the Australian community. This publication contains preliminary results from the survey and it is planned to publish more detailed estimates by the end of 1981.

2. This is the first time in Australia that a national survey has directly examined issues associated with handicapped persons. The 1976 Census included a question on handicaps. However, the post enumeration

survey following the Census showed clearly that the question had different meanings for different people and that the resulting data was of poor quality. Previous ABS surveys on 'Chronic Illness' and 'Health' focused on *illness* rather than *handicap* and thus provided only a partial view of the situation of handicapped persons. Similarly, the information obtainable from records and reports of Government departments or private agencies working with handicapped persons only relates to those who are known to the department or agency or who have some connection with it via the receipt of a benefit, the provision of aids, etc. This survey supplements such information by directly identifying handicapped persons in a representative sample of the whole population.

3. The survey methodology was based on the concepts and definitions outlined by the World Health Organisation in the *International Classification of Impairments, Disabilities and Handicaps*. Some modifications were necessary to meet survey requirements.

4. The survey examined the needs of and the kinds of problems experienced by persons with different types of handicaps. The areas examined in respect of handicapped persons included causes, disabling conditions, services, aids, accommodation, employment, education, income, transport, recreation and institutionalised care.

Scope and coverage

5. The estimates relate to all Australian residents except those in gaols or reformatories and boarding school pupils not included in households. Non-Australian diplomats, servicemen or tourists were also excluded.

Sample design

6. The sample for the survey consisted of two distinct parts. The first part covered all households in Australia (see paragraph 17 for definition of a household). A sample of 33,000 households was selected. In the second part, a sample of 5,300 patients or residents was selected from 723 randomly selected health establishments (see paragraph 18) throughout Australia.

Survey methodology

7. The survey questionnaire was divided into 3 stages and information was obtained by interviewers. The first stage identified persons with one or more impairments or disabilities (see paragraph 10). The second stage determined whether, and to what degree, these persons were handicapped (see paragraph 12) as a result of their impairments or disabilities. The third stage examined the characteristics and needs of these handicapped persons.

8. For persons in households, information for the first stage of the questionnaire was generally obtained from one adult for all persons in that household. Wherever possible, the remaining information was obtained by personal interview. Information for persons who could not answer on their own behalf and for children less than 15 years of age was obtained from another household member.

9. In health establishments all information was obtained wherever possible from the patient or resident. Where the patient or resident was aged less than 15 years or was said by the staff to be incapable of participating, the questionnaire was answered by the staff on his/her behalf.

Definitions

10. A *disabled person* is a person who had one or more of the following disabilities or impairments. These had to have lasted or be likely to last for 6 months or more:

- (a) loss of sight (even when wearing glasses or contact lenses),
- (b) loss of hearing,
- (c) speech difficulties in native language,
- (d) blackouts, fits, or loss of consciousness,
- (e) slowness at learning or understanding,
- (f) incomplete use of arms and fingers,
- (g) incomplete use of feet and legs,
- (h) long term treatment for nerves or an emotional condition,
- (i) restriction in physical activities or in doing physical work,
- (j) disfigurement or deformity,
- (k) need for help or supervision because of a mental disability,
- (l) long term treatment or medication (but was still restricted in some way by the condition being treated).

11. A *disabling condition* is that condition which caused one or more of the disabilities or impairments listed in paragraph 10. Persons may have more than one disabling condition and the *primary disabling condition* is the condition identified by the person (or the person answering on his/her behalf) as causing the most problems.

12. A *handicapped person* is a disabled person aged 5 years or more who was further identified as being limited to some degree in his/her ability to perform certain activities or tasks in relation to one or more of the following five areas:

- (a) self care,
- (b) mobility,
- (c) communication,
- (d) schooling,
- (e) employment.

Disabled persons aged under 5 years were all regarded as being handicapped.

13. The following activities were used in the assessment of each area of handicap. They were chosen as representative of the many and varied tasks involved and as indicators of the difficulties which may be experienced because of a person's disabling condition(s):

- (a) *self care handicap*—difficulties in showering, bathing, dressing, eating a meal.
- (b) *mobility handicap*—difficulties in using public transport, moving around a person's own home, moving around unfamiliar places, walking 200 metres, walking up and down stairs.
- (c) *communication handicap*—difficulties understanding or being understood in their native language.

14. Persons had a *schooling limitation* if they were unable to attend school, attended a special school, attended special classes in an ordinary school, needed time off from school or had difficulty at school because of their disabling conditions. This information was collected only from persons aged 5-14 years and those aged 15-20 years still attending school.

15. Persons had an *employment limitation* if they were limited in the number of hours they could work, required time off work, were limited in the prospect of changing/obtaining jobs, had lost or been refused a job, worked in a sheltered workshop, or were permanently unable to work because of their disabling condition(s).

Employment limitation was only determined for persons resident in households who were aged 15-64 years and not attending school.

16. *Severity of handicap*. Three levels of severity (severe, moderate and mild) were determined for each of three areas of handicap; self care, mobility and communication. These levels were based on the persons's ability to perform the activities or tasks, and the amount and type of assistance required. For each type of handicap, the levels of severity are as follows:

- (a) *severe handicap*—personal help or supervision required or the person is unable to perform one or more of the activities.
- (b) *moderate handicap*—no personal help or supervision required, but difficulty in performing one or more of the activities.
- (c) *mild handicap*—no personal help or supervision required and no difficulty in performing any of the activities, but uses an aid.

The highest level of severity in any one of the areas of self care, mobility and communication determines the *severity of total handicap* for handicapped persons.

Severity of handicap in each area and in total was not determined for children aged less than 5 years, because the questions were inappropriate for young children. Severity was also not determined for those persons with only an employment or schooling limitation.

17. *Persons in households* were those who spent more than half their nights in the three months prior to interview in one or more of the following:

houses, flats, hotels, motels, caravans, construction camps, tertiary residential colleges, retirement villages (containing only self contained units) live-in staff quarters, youth hostels.

18. *Patients or residents in health establishments* were those (excluding staff) who spent more than half their nights in the three months prior to interview in one or more of the following:

handicapped persons homes and hostels, hospitals, nursing homes, retirement homes and villages (excluding those containing only self contained units).

Interpretation of results

19. Since the estimates are based on information obtained from occupants of a sample of dwellings and establishments, they may differ from the figures that would have been produced if all dwellings and establishments had been included in the sample and the same questionnaires and procedures had been used. These differences are called sampling errors. One measure of the sampling error of an estimate is the standard error. Appendix 1 provides estimates of standard errors for data contained in this publication together with an explanation of how to interpret them.

20. In addition to sampling errors, the estimates are subject to non-sampling errors. These may be caused by errors in reporting (e.g. because of misunderstanding or unwillingness of respondents to reveal all details), or errors arising during processing (e.g. coding, data recording). Every effort is made to reduce the non-sampling error to a minimum by careful design of questionnaires, intensive training and supervision of interviewers and efficient operating procedures.

21. The following factors should be considered in interpreting the results:

- (a) The information in the survey was based wherever possible on self assessment by the handicapped persons. However, in some situations information was provided by someone else (in the case of those unable to do so because of their condition or because they were aged less than 15). In those situations certain answers may differ from answers the handicapped person themselves

would have provided. This is particularly so in health establishments where 55.1 per cent of interviews were completed by someone other than the handicapped person. For persons in households 6.1 per cent of interviews were completed by someone other than the handicapped person (Approximately 2/3 of these were persons less than 15 years old).

- (b) A number of persons may not have reported their conditions because of:
 - (i) the sensitive nature of the condition (e.g. alcohol and drug related conditions, schizophrenia, mental retardation or degeneration);
 - (ii) the intermittent or seasonal nature of the condition (e.g. asthma, epilepsy); or
 - (iii) a lack of awareness of the condition on the part of the person (e.g. mild diabetes).

Because of this, the survey may have underestimated to some extent the number of handicapped persons with these types of conditions. (See table 7).

Related publications

22. Other ABS publications which may be of interest include:

Chronic Illnesses, Injuries and Impairments : May 1974 (4305.0)

Australian Health Survey 1977-78 : Chronic Conditions (4314.0)

1976 Census : Population and Dwellings Cross Classified Tables (2426.0)

23. Current publications produced by the ABS are listed in the *Catalogue of Publications, Australia* (1101.0) which is available free of charge from any ABS office.

Symbols and other usages

- .. Not applicable
- * Subject to sampling variability too high for most practical purposes (see Appendix 1).

24. Where figures have been rounded, discrepancies may occur between sums of the component items and totals.

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Australian Statistician

TABLE 1. ALL PERSONS : AREA OF HANDICAP/LIMITATION BY TYPE OF RESIDENCE

Area of handicap/limitation	Type of residence					
	Households		Health establishments		Total	
	Number of persons ('000)	% of total persons	Number of persons ('000)	% of total persons	Number of persons ('000)	% of total persons
Self care(a)	448.3	3.1	95.8	77.4	544.1	3.7
Mobility(a)	812.8	5.6	108.6	87.8	921.4	6.3
Communication(a)	204.9	1.4	55.6	44.9	260.5	1.8
Schooling(b)	90.7	0.6	5.0	4.0	95.7	0.7
Employment(c)	498.3	3.4	..	..	..	..
Handicapped persons aged less than 5 years	39.2	0.3	*	*	39.4	0.3
Total handicapped(d)	1,153.6	7.9	111.0	89.7	1,264.6	8.6
Total impaired/disabled(e)	1,827.4	12.6	114.6	92.6	1,942.0	13.2
Total persons	14,540.0	100.0	123.7	100.0	14,663.8	100.0

(a) Excludes persons aged less than 5 years. (b) Persons aged 5-14 years or 15-20 years still attending school. (c) Persons aged 21-64 years or 15-20 years not attending school. (d) Total is less than the sum of components because persons may have more than one type of handicap or limitation. See paragraph 12 of Explanatory notes for definition of handicapped person. (e) See paragraph 10 of Explanatory notes for definition of impaired or disabled person.

TABLE 2. HANDICAPPED PERSONS : AREA AND SEVERITY OF HANDICAP/LIMITATION BY TYPE OF RESIDENCE

Area of handicap/ limitation	Type of residence											
	Households				Health establishments				Total			
	Severity of handicap											
	Mild	Moder- ate	Severe	Total	Mild	Moder- ate	Severe	Total	Mild	Moder- ate	Severe	Total
Number of persons (' 000)												
Self care	22.6	220.9	204.8	448.3	4.9	6.6	84.3	95.8	27.5	227.5	289.1	544.1
Mobility	265.0	196.0	351.7	812.8	6.1	4.5	98.0	108.6	271.2	200.5	449.7	921.4
Communication	145.1	18.4	41.4	204.9	9.4	11.1	35.0	55.6	154.5	29.5	76.4	260.5
Schooling	..	..	..	90.7	..	..	..	5.0	..	..	..	95.7
Employment	..	..	..	498.3	..	..	..	..	..	..	..	498.3
Handicapped persons aged less than 5 years	..	..	..	39.2	..	..	..	*	..	..	..	39.5
Total handicapped	(a)290.8	(a)248.9	(a)413.1	(b)1,153.6	(a)5.0	(a)4.8	(a)100.8	(b)111.0	(a)295.8	(a)253.7	(a)513.9	(b)1,264.6
Percentage of persons												
Self care	5.0	49.3	45.7	100.0	5.1	6.9	88.0	100.0	5.0	41.8	53.1	100.0
Mobility	32.6	24.1	43.3	100.0	5.7	4.1	90.2	100.0	29.4	21.8	48.8	100.0
Communication	70.8	9.0	20.2	100.0	17.0	20.0	63.0	100.0	59.3	11.3	29.3	100.0

(a) Total differs from the sum of components because the highest level in any area determines the level of total handicap. (b) Total is less than the sum of vertical components because persons may be handicapped in more than one area, and exceeds the sum of horizontal components because the total includes persons with only an employment or schooling limitation, and children aged less than 5 years.

TABLE 3. HANDICAPPED PERSONS : SEVERITY OF TOTAL HANDICAP(a) BY TYPE OF RESIDENCE BY STATE
(Number of persons (' 000))

State	Type of residence											
	Households				Health establishments				Total			
	Severity of total handicap											
	Mild	Moder- ate	Severe	Total (b)	Mild	Moder- ate	Severe	Total (b)	Mild	Moder- ate	Severe	Total (b)
N.S.W.	91.7	77.7	144.9	381.6	1.1	1.5	34.2	36.9	92.8	79.1	179.1	418.5
Vic.	83.2	64.3	106.8	316.4	1.2	0.7	23.4	25.4	84.4	65.0	130.1	341.7
Qld	45.8	47.6	67.9	191.7	1.2	0.9	17.1	19.3	47.0	48.5	84.9	211.0
S.A.	28.1	22.9	39.5	105.4	0.6	0.7	11.6	12.9	28.7	23.6	51.1	118.3
W.A.	28.6	28.2	35.7	108.4	0.7	0.9	10.2	11.8	29.3	29.1	45.8	120.2
Tas.	9.8	4.9	12.3	32.0	*	*	3.7	3.9	10.0	5.0	16.0	35.9
N.T.	*	*	*	4.9	*	*	*	*	*	*	*	5.1
A.C.T.	2.9	2.6	4.9	13.2	*	*	0.6	0.6	2.9	2.6	5.5	13.8
Total	290.8	248.9	413.1	1,153.6	5.0	4.8	100.8	111.0	295.8	253.7	513.9	1,264.6

(a) See paragraph 16 of Explanatory notes. (b) Includes disabled persons aged less than 5 years and those who only had a schooling or employment limitation.

TABLE 4. HANDICAPPED PERSONS : SEVERITY OF TOTAL HANDICAP BY TYPE OF RESIDENCE BY AGE AND SEX
(Number of persons (' 000))

Characteristics of handicapped person	Type of residence								Total			
	Households				Health establishments							
	Severity of total handicap											
	Mild	Moder- ate	Severe	Total (a)	Mild	Moder- ate	Severe	Total (a)	Mild	Moder- ate	Severe	Total (a)
Age in years												
0- 4	..	..	..	39.2	..	..	..	*	..	..	..	39.5
5-14	9.6	11.6	38.0	93.4	*	*	3.5	3.6	9.6	11.7	41.5	97.0
15-24	12.8	13.9	20.0	60.6	*	*	5.4	5.7	12.9	14.1	25.4	66.2
25-34	16.1	18.3	28.3	84.0	*	*	3.9	4.2	16.2	18.5	32.3	88.2
35-44	21.0	22.6	36.5	101.0	*	*	2.9	3.2	21.1	22.7	39.4	104.2
45-54	36.6	40.7	50.1	153.2	*	*	4.4	4.7	36.7	40.9	54.5	157.8
55-64	73.1	63.0	71.1	253.0	*	0.5	6.8	7.7	73.6	63.5	77.9	260.7
65-74	77.9	49.8	74.9	202.6	1.4	1.3	15.1	17.8	79.3	51.1	90.0	220.5
75 and over	43.6	28.9	94.0	166.6	2.8	2.2	58.8	63.7	46.4	31.2	152.8	230.4
Sex												
Male	148.6	140.7	179.3	580.7	1.8	2.2	33.8	38.1	150.4	143.0	213.1	618.8
Female	142.2	108.2	233.8	572.9	3.2	2.6	67.0	72.9	145.4	110.7	300.8	645.8
Total	290.8	248.9	413.1	1,153.6	5.0	4.8	100.8	111.0	295.8	253.7	513.9	1,264.6

(a) Includes persons who only had a schooling or employment limitation.

TABLE 5. PERSONS HANDICAPPED IN EACH AREA(a) : AREA AND SEVERITY OF HANDICAP BY TYPE OF RESIDENCE BY AGE AND SEX
(Number of persons (' 000))

Characteristics of handicapped person	Type of residence											
	Households				Health establishments				Total			
	Severity of handicap											
	Mild	Moder- ate	Severe	Total (a)	Mild	Moder- ate	Severe	Total (a)	Mild	Moder- ate	Severe	Total (a)
SELF CARE HANDICAP												
Age in years												
5-14	*	6.1	22.5	29.7	*	*	3.1	3.2	*	6.3	25.6	32.9
15-24	*	8.0	10.6	19.7	*	*	4.1	4.4	*	8.4	14.7	24.1
25-34	*	14.4	15.2	30.1	*	*	2.9	3.2	*	14.7	18.1	33.3
35-44	*	20.6	19.1	41.4	*	*	2.2	2.4	*	20.8	21.3	43.7
45-54	*	38.4	26.3	66.2	*	*	3.5	3.8	*	38.6	29.7	70.0
55-64	3.1	54.8	33.3	91.3	*	0.5	5.3	5.9	3.3	55.3	38.6	97.2
65-74	5.7	44.3	32.0	81.9	0.9	1.5	13.0	15.5	6.6	45.7	45.0	97.4
75 and over	8.1	34.3	45.7	88.1	3.6	3.5	50.3	57.4	11.7	37.8	96.0	145.5
Sex												
Male	6.7	113.6	97.8	218.2	1.3	2.3	27.4	30.9	8.0	115.8	125.2	249.1
Female	15.9	107.3	106.9	230.1	3.6	4.3	56.9	64.8	19.5	111.7	163.8	295.0
Total	22.6	220.9	204.8	448.3	4.9	6.6	84.3	95.8	27.5	227.5	289.1	544.1
MOBILITY HANDICAP												
Age in years												
5-14	7.9	4.6	24.5	37.1	*	*	3.4	3.5	7.9	4.7	27.9	40.6
15-24	10.6	12.2	16.1	38.9	*	*	5.3	5.6	10.6	12.4	21.5	44.5
25-34	16.2	13.7	23.9	53.9	*	*	3.8	4.1	16.5	13.8	27.7	58.0
35-44	22.6	17.1	29.4	69.1	*	*	2.7	3.0	22.8	17.2	32.1	72.2
45-54	39.6	30.8	42.2	112.5	*	*	4.3	4.6	39.8	31.0	46.4	117.2
55-64	71.6	50.1	60.0	181.7	0.6	0.5	6.3	7.5	72.2	50.7	66.3	189.1
65-74	61.7	41.5	67.5	170.7	1.5	1.3	14.5	17.3	63.2	42.8	82.0	188.0
75 and over	34.9	26.0	88.1	148.9	3.3	2.0	57.7	63.0	38.2	27.9	145.8	211.9
Sex												
Male	138.0	107.8	140.4	386.2	2.7	2.3	32.0	37.0	140.8	110.0	172.4	423.2
Female	127.0	88.3	211.3	426.6	3.4	2.2	65.9	71.6	130.4	90.5	277.3	498.2
Total	265.0	196.0	351.7	812.8	6.1	4.5	98.0	108.6	271.2	200.5	449.7	921.4
COMMUNICATION HANDICAP												
Age in years												
5-14	6.2	9.0	16.6	31.8	*	*	2.6	3.0	6.2	9.4	19.2	34.8
15-24	3.9	*	3.9	9.9	*	0.7	2.9	3.7	4.1	*	6.8	13.7
25-34	4.0	*	4.0	9.6	*	0.7	1.9	2.7	4.1	*	6.0	12.3
35-44	6.2	*	*	9.4	*	0.7	1.4	2.2	6.3	*	3.5	11.5
45-54	9.9	*	*	12.2	*	*	1.8	2.3	10.0	*	3.5	14.5
55-64	26.2	*	*	29.5	*	0.9	2.0	3.2	26.5	*	4.4	32.7
65-74	42.7	*	3.1	46.9	1.0	1.4	4.9	7.3	43.8	*	8.1	54.2
75 and over	46.0	*	7.6	55.7	7.6	6.0	17.5	31.1	53.6	8.0	25.1	86.7
Sex												
Male	74.7	12.1	23.5	110.4	2.7	4.4	13.1	20.2	77.4	16.5	36.6	130.6
Female	70.4	6.3	17.8	94.5	6.7	6.7	21.9	35.4	77.1	13.0	39.8	129.9
Total	145.1	18.4	41.4	204.9	9.4	11.1	35.0	55.6	154.5	29.5	76.4	260.5

(a) Excludes persons aged less than 5 years.

TABLE 6. PERSONS WITH EMPLOYMENT OR SCHOOLING LIMITATIONS: TYPE OF RESIDENCE BY AGE AND SEX
(Number of persons ('000))

<i>Characteristics of persons with limitation</i>	<i>Type of residence</i>			<i>Total</i>
	<i>Households</i>		<i>Health establishments</i>	
	<i>Schooling limitation(a)</i>	<i>Employment limitation(b)</i>	<i>Schooling limitation(a)(c)</i>	
Age in years				
5-14	81.8	..	3.6	85.4
15-20	8.9	16.2	1.3	10.3
21-24	..	17.1	..	..
25-34	..	60.8	..	..
35-44	..	78.1	..	..
45-54	..	120.2	..	..
55-64	..	205.9	..	..
65-74	..	..	..	..
75 and over	..	..	..	..
Sex				
Male	57.9	264.7	2.9	60.8
Female	32.9	233.6	2.0	34.9
Total	90.7	498.3	5.0	95.7

(a) Information on schooling limitations was obtained for persons aged 5-14 years and those aged 15-20 years still attending school. (b) Information on employment limitations was collected for persons aged 21-64 years and those aged 15-20 years not attending school. (c) Information on employment limitations was not obtained for persons in health establishments.

**TABLE 7. HANDICAPPED PERSONS: TYPE OF RESIDENCE BY SEVERITY OF TOTAL HANDICAP
BY TYPE OF PRIMARY DISABLING CONDITION(a)
(Number of persons (' 000))**

Type of primary disabling condition	Type of residence								Total			
	Households				Health establishments							
	Severity of total handicap											
	Mild	Moderate	Severe	Total(b)	Mild	Moderate	Severe	Total(b)	Mild	Moderate	Severe	Total(b)
Senile psychoses	*	*	*	*	*	*	13.2	13.3	*	*	14.3	14.3
Other psychoses	*	*	*	6.3	*	*	7.7	8.1	*	*	9.4	14.4
Mental retardation	*	*	21.1	27.4	*	*	14.6	15.2	*	*	35.7	42.7
Mental degeneration due to brain damage	*	*	*	*	*	*	8.6	8.7	*	*	10.2	10.4
Slow at learning and specific delays in development	*	*	6.2	22.9	*	*	*	*	*	*	6.4	23.3
Neurotic disorders, personality dis- orders and other non-psychotic mental disorders	7.9	7.3	16.1	49.3	*	*	2.2	2.6	8.1	7.5	18.3	51.9
Unspecified mental disability, nerves, nervous tension, or emo- tional condition(c)	4.9	4.0	5.0	22.8	*	*	1.4	1.8	5.0	4.1	6.4	24.6
DEDICATION TO WORK IN P.S. (A)	*	*	152.6	152.6								
Total with mental disorders	15.2	15.3	52.7	131.6	0.8	0.9	48.0	50.0	16.0	16.2	100.7	181.6
Loss of sight	13.6	8.0	27.5	55.6	*	*	6.9	7.7	14.1	8.3	34.4	63.3
Loss of hearing	71.5	14.1	21.1	126.1	1.0	*	3.0	4.3	72.4	14.4	24.1	130.3
Neoplasms (cancer)	3.1	*	6.9	15.0	*	*	1.1	1.2	3.1	*	8.0	16.2
Diabetes	4.0	*	4.3	13.3	*	*	1.2	1.3	4.0	*	5.5	14.6
Paralysis(d)	*	3.4	18.7	26.2	*	*	8.5	8.7	*	3.4	27.2	34.9
Epilepsy	*	*	5.9	15.4	*	*	3.1	3.3	*	*	8.9	18.7
Other diseases of the nervous system	4.5	5.2	18.4	35.5	*	*	5.1	5.4	4.6	5.3	23.5	40.9
Hypertension (high blood pressure)	12.4	5.6	8.8	34.1	*	*	1.0	1.4	12.6	5.7	9.9	35.4
Heart disease	36.5	18.8	20.8	86.0	*	*	3.7	4.5	36.9	19.2	24.5	90.5
Other diseases of the circulatory system(e)	8.9	11.1	17.3	41.2	*	*	11.2	11.7	9.2	11.4	28.5	52.9
Asthma	11.7	10.9	11.9	46.7	*	*	*	*	11.8	11.0	12.2	47.1
Bronchitis, emphysema and chronic obstructive airways disease	6.7	8.0	10.3	26.4	*	*	1.1	1.4	6.9	8.1	11.4	27.8
Diseases of the digestive system	6.5	7.4	7.8	29.5	*	*	0.9	1.3	6.6	7.6	8.7	30.7
Arthritis and disorders of the back	48.6	86.0	121.0	276.8	0.6	1.0	12.3	13.8	49.2	87.0	133.3	290.6
Musculoskeletal deformities(f)	9.4	9.0	13.6	35.6	*	*	1.6	2.0	9.5	9.3	15.2	37.6
Other diseases of the musculo- skeletal system and connective tissue	9.1	12.0	15.8	41.1	*	*	1.9	2.2	9.3	12.1	17.7	43.3
Restriction of physical activities due only to old age	*	*	*	*	*	*	5.8	5.8	*	*	7.9	8.5
All other physical conditions(g)	25.9	28.1	33.6	121.5	*	*	5.1	5.8	26.2	28.5	38.7	127.3
Total with physical conditions	276.0	233.7	365.9	1,028.6	4.2	4.0	73.8	82.2	280.2	237.7	439.7	1,110.8
Total handicapped	290.8	248.9	413.1	1,153.6	5.0	4.8	100.8	111.0	295.8	253.7	513.9	1,264.6

(a) Those persons with a primary disabling condition which had both a mental and physical manifestation are shown against both the mental and physical components of the table although they are included only once in the total.
(b) Includes all disabled children aged 0 to 4 years and those disabled persons who had a schooling or employment limitation only. (c) Includes those persons on long term treatment for nerves or an emotional condition, or in need of help or supervision because of a mental disability but the nervous, emotional or mental condition was not reported. (d) Includes cerebral palsy. (e) Includes those persons who are physically restricted by strokes in ways other than by paralysis. (f) Includes absence of limbs or parts of limbs. (g) Includes ill-defined conditions.

APPENDIX I

TECHNICAL NOTE

Estimation procedure

The estimates in this publication are derived from the results of two independent surveys (see detailed description in paragraph 6 of the Explanatory notes). The results of the household survey have been calculated using a complex ratio estimation procedure, which ensures that the survey estimates conform to an independently estimated distribution of the population by age and sex, rather than to the age and sex distribution within the sample itself. For the health establishment survey estimates were based upon probabilities of selection.

Reliability of the estimates

2. Since the estimates in this publication are based on information obtained from occupants of a sample of dwellings and a sample of health establishments they are subject to sampling variability; that is, they may differ from the figures that would have been produced if all dwellings and all health establishments had been included in the surveys. One measure of the likely difference is given by the *standard error*, which indicates the extent to which an estimate might have varied by chance because only a sample of dwellings was included. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included, and about nineteen chances in twenty that the difference will be less than two standard errors. Another measure is the *relative standard error*, which expresses the standard error as a percentage of the estimate.

3. Space does not allow for the separate indication of the standard error of all estimates in this publication. Standard errors for estimates relating to persons in Households are given in Table A on page 10. For estimates relating to persons in Health Establishments the standard errors are given in Table B. These figures will not give a precise measure of the standard error of a particular estimate, but they will provide an indication of its magnitude. An example of the use of the calculation and use of standard errors is as follows:

From Table 1 it can be seen that there are about 812,800 mobility handicapped persons in households. Table A shows that the standard error of this estimate is about 8,400 (using interpolation). Therefore, there are about two chances in three that the value that would have been produced if all dwellings had been included in the survey will fall within the range 804,400 to 821,200 and about nineteen chances in twenty that the value will fall within the range 796,000 to 829,600.

4. For an estimate which is a sum of estimates from the Household and Health Establishment surveys the standard error will be a combination of the individual type of residence standard error according to the following expression:

$$SE_{TOTAL} = \sqrt{(SE_H)^2 + (SE_{HE})^2}$$

An example of the use of this expression is as follows:

From Table 3 it can be seen that there are about 77,700 moderately handicapped persons in N.S.W. households and 1,500 in health establishments, giving 79,100 persons in total. From Table A the standard error for an estimate of 77,700 is approximately 3,450. From Table B the standard error for an estimate of 1,500 is approximately 240. Putting these two standard errors in the above expression gives

$$\begin{aligned} SE_{TOTAL} &= \sqrt{(3450)^2 + (240)^2} \\ &= 3,458 \text{ (say 3,460)} \end{aligned}$$

Therefore, there are about two chances in three that the value that would have been produced if all dwellings and health establishments had been included in the survey will fall within the range 75,640 to 82,560 and about nineteen chances in twenty that the value will fall within the range 72,180 to 86,020.

5. The reliability of an estimated percentage computed by using sample data for both numerator and denominator, depends upon both the size of the numerator and the size of the denominator. However, the relative standard error of the estimated percentage will generally be lower than the relative standard error of the estimate of the numerator.

6. Approximate standard errors of percentages may be derived by first obtaining the relative standard error of the number of persons corresponding to the numerator of the percentage and then applying this figure to the estimated percentage. The relative standard error of the numerator can be obtained from the tables. An example of the calculation and use of standard errors of estimated percentages is as follows:

From Table 2 it can be seen that 45.7 per cent of persons in households with selfcare handicaps were severely handicapped, and it can be seen also that the numerator of this percentage is 204,800. Table A shows that the standard error of the numerator is approximately 5,100. The standard error of the percentage in Table 2 is given by

$$\begin{aligned} \text{Standard error} &= \frac{5,100 \times 45.7}{204,800} \\ &= 1.1 \text{ per cent} \end{aligned}$$

Therefore, there are about two chances in three that the rate which would have been obtained if all dwellings had been included in the survey is in the range 44.6 to 46.8 per cent and nineteen chances in twenty that it is in the range 43.5 to 47.9 per cent.

7. As the standard errors in the tables show, *the smaller the estimate the higher is the relative standard error*. Very small estimates are thus subject to such high standard errors (relative to the size of the estimate) as to detract seriously from their value for most reasonable uses. In the tables in this publication estimates less than the lowest levels shown in the tables below have not been published. Although figures for these small components can in some cases be derived by subtraction, they should not be regarded as reliable.

8. The imprecision due to sampling variability, which is measured by the standard error, should not be confused with inaccuracies that may occur because of imperfections in reporting by interviewers and respondents. Inaccuracies of this kind are referred to as the *non-sampling error*, and they may occur in any enumeration, whether it be a full count or only a sample. Every effort is made to reduce the non-sampling error to a minimum by careful design of questionnaires, intensive training and supervision of interviewers and efficient operating procedures.

TABLE A. STANDARD ERRORS OF ESTIMATES—HOUSEHOLDS

Size of estimate	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
1,500						300		390	
2,000				460	460	340	470	440	
2,500			630	510	510	380	510	480	
3,000			690	550	560	410	550	510	790
3,500	920	910	740	590	590	430	590	540	860
4,000	980	960	780	620	630	460	620	560	920
4,500	1,000	1,000	820	650	660	480	650	590	970
5,000	1,100	1,100	860	680	690	500	680	610	1,000
6,000	1,200	1,200	930	730	750	530	740	650	1,100
10,000	1,500	1,400	1,200	900	920	640	910	750	1,400
20,000	2,000	1,900	1,500	1,200	1,200	810	1,200	910	2,000
50,000	3,000	2,700	2,200	1,600	1,700	1,100	1,700	1,100	2,900
100,000	3,900	3,500	2,800	2,100	2,100	1,300		1,300	3,900
200,000	5,000	4,400	3,600	2,600	2,600	1,500			5,100
300,000	5,800	5,000	4,100	2,900	2,900				6,000
500,000	6,900	5,800	4,800	3,300	3,300				7,200
1,000,000	8,500	7,000	5,900						9,100
2,000,000	10,000	8,400							11,000
5,000,000									15,000

TABLE B. STANDARD ERRORS OF ESTIMATES—HEALTH ESTABLISHMENTS

Size of estimate	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
500		125	115	105	105	75		25	120
750	175	155	140	125	125	90			145
1,000	200	175	160	145	145	100			165
1,500	240	215	190	175	170	110			205
2,000	280	245	220	200	195	115			235
2,500	310	275	240	215	215	110			260
3,000	335	295	260	230	225	95			285
3,500	360	315	280	245	240	75			310
4,000	385	335	295	255	250				330
4,500	405	350	305	265	255				350
5,000	425	365	320	270	265				365
6,000	455	390	340	280	270				400
10,000	555	450	380	255	230				510
20,000	645	395	225						685
30,000	565								795
50,000									910
100,000									700